

A Generative Study of Discourse in Korean: on Connecting Sentences

Suk-Jin Chang
(Seoul National University)

0. In some models of generative grammar, there is a base rule like (1.a), by which the sentence is expanded to form a coordinate construction as shown in (1.b) (cf. Ross 1967; Stockwell et al 1968).

- (1) a. $S \rightarrow \begin{cases} \text{and} \\ \text{or} \end{cases} S^n \quad (n \geq 2)$
b. $S_1 \begin{cases} \text{and} \\ \text{or} \end{cases} S_2 \begin{cases} \text{and} \\ \text{or} \end{cases} \dots \begin{cases} \text{and} \\ \text{or} \end{cases} S_n$

However, in the model of sentence grammar whose domain is limited to sentencehood, it is infeasible to attempt to describe two or more sentences in a given discourse as semantically related to each other and syntactically reducible to one single sentence.

By contrast, in a model of discourse grammar the process of sentence reduction can be described in the base by a rule like (2.b), given an initial rule like (2.a).

- (2) a. $D \rightarrow CS^n$ (D—discourse; C—semantic connective)
b. $CS^n \rightarrow S$

The process of sentence reduction, I would like to claim, is an appropriate one in discourse when we take into consideration the fact that in language acquisition or foreign language learning the child or the adult produces syntactically disconnected short sentences first and connects them later to form a syntactically connected long sentence.¹

The purpose of this paper is two-fold: first, I will attempt to provide a general account of connecting sentences with a sentence connective; second, I will attempt to describe three sentence connectives, *ko* *kose*, and *se* in terms of their semantic properties and syntactic

¹ The linguistic view, as expressed here, which takes into account some psycholinguistic aspect, apparently mixing the notions of 'generating' and 'producing', may be objected to by those who hold the view that competence and performance can and must be kept distinct and by those who are concerned with a competence model. Such an argument, however, is irrelevant to those who would not accept the competence-performance distinction in linguistic description or to those who are interested in the exploration of discourse.

constraints imposed on them. This study is exploratory and provisional since there has been no study of connectives in this direction and the linguistic material treated here is extremely limited.

1. For expository purposes, let us consider two sentences in (3) and ask ourselves whether they are semantically related to each other and, if so, what the semantic relations between them are.

- (3) Mary-nun ay-lul pay-ss-ta. John-hako kyelhonha-yss-ta.²
 -TOP child-ACC bear-PST-Pl/D -with marry -PST-Pl/D

'Mary got pregnant. ϕ (=Mary) married John.'

Given the two syntactically disconnected sentences like (3), we may easily conceive of a number of semantic relations between them, each being overtly marked by a sentence connective. The expression in (3), for example, is semantically equivalent to any one of the expressions in (4), or for that matter, to any one of the expressions in (5).

- (4) Mary-nun ay-lul pay-ss-ta. $\left\{ \begin{array}{l} \text{Kuli-ko} \\ \text{so-and} \\ \text{Kuli-kose} \\ \text{-then} \\ \text{Kulay-se} \\ \text{-so} \\ \vdots \end{array} \right\} \text{John-hako kyelhonha-yss-ta.}$

'Mary got pregnant. $\left\{ \begin{array}{l} \text{And} \\ \text{Then} \\ \text{So} \\ \vdots \end{array} \right\}$ she married John.'

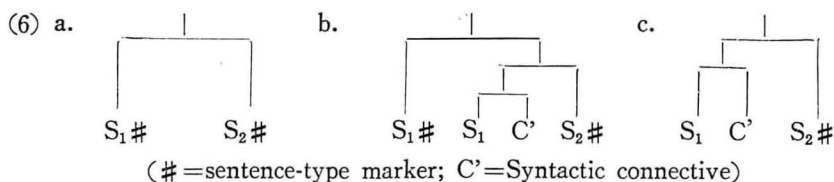
- (5) Mary-nun ay-lul pay- $\left\{ \begin{array}{l} \text{ko} \\ \text{kose} \\ \text{se} \\ \vdots \end{array} \right\} \text{John-hako kyelhonha-yss-ta.}$

'Mary got pregnant, $\left\{ \begin{array}{l} \text{and} \\ \text{then} \\ \text{so} \\ \vdots \end{array} \right\}$ she married John.'

Notice that in (4) the sentence-initial connectives *kuli-ko*, *kuli-kose*, and *kulay-se* are composed of the anaphoric referent *kule* 'so, such', which refers to S_1 , and the sentence connectives *ko*, *kose*, and *se*, respectively.

At some intermediate stage of syntactic representation, the three syntactically distinct expressions in (3), (4) and (5) may be represented schematically as in (6).

² Martin's (Yale) Romanization and the Current Spelling System in Korea are adopted. Abbreviations: TOP(ic), ACC(usative), P(a)ST, Pl(ain D-Level), D(eclarative).



2. In the introductory section we assumed that a sentence reduction rule like (2.b) should have a place in the base of discourse grammar. Given the base rule (2.b), in which C stands for a semantic connective, and given the near surface structures in (6), in which C' stands for a syntactic connective, we may be able to account for the syntactic structures of (6) as having derived from (2.b). The semantic connective C may include such elementary operations in logic as conjunction, disjunction, condition, and bicondition—and also, among others, temporal (simultaneous or, consecutive), causal, and contrastive relations.³

The way in which the semantic connective C connects S_1 and S_2 may be represented as in (7.a) for verb-initial languages or as in (7.b) for verb-final languages.⁴

(7) a. $C(S_1, S_2)$

b. $(S_1, S_2)C$

For ease of exposition, however, I will represent C as standing between S_1 and S_2 as in (8), which then would be taken as deriving from (7) by connective shifting—shifting C to intersentential from initial (or final) position.



As a first approximation, the structures in (6) may be shown to have derived from (8) by the following transformations. In the case of (6.a): a rule of connective deletion optionally deletes C⁶. In the case of (6.b): S_1 is copied and the copy plus C is adjoined to

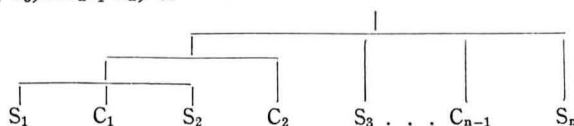
³ How many semantic relations can be described as existing in discourse is indeed an important question in discourse grammar, which, however, goes beyond the scope of this study.

⁴ I assume that the semantic connective C is a predicate in logic. For the treatment of prepositions, conjunctions, quantifiers, and the like as predicates in logical structure, see works by J.D. McCawley and other generative semanticists.

⁵ The structure in which more than two sentences are connected may be represented as:

(i) $((S_1-C_1-S_2)-C_2-S_3)\dots C_{n-1}-S_n$ or

(ii)



⁶ Connective deletion, as well as the rules of (9) and (11), is examined in Section 4 in a discourse frame.

S_2 , as formulated in (9).

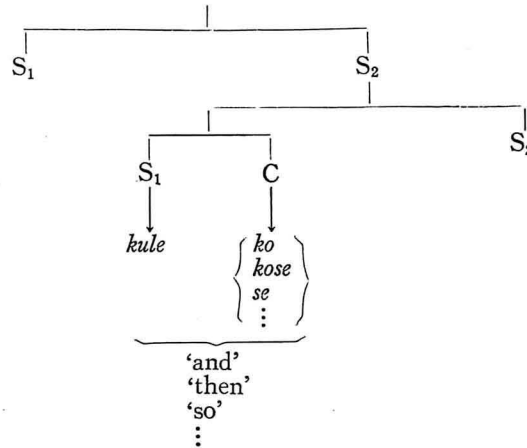
$$(9) \begin{array}{cccccc} X & - & S_1 & - & C & - & S_2 & - & X \\ 1 & & 2 & & 3 & & 4 & & 5 \Rightarrow (\text{optional}) \end{array}$$

$$\begin{array}{cccccc} 1 & & 2 & & 0 & [2+3] \# & 4 & & 5 \end{array}$$

(# = Chomsky-adjointing)

Then, sentence pronominalization applies to the copied S_1 , yielding *kule* 'so, such', and C is lexicalized ($C \rightarrow ko/kose/se \dots$), depending on its semantic content.⁷ See the illustration in (10).

(10)



In the case of (6.c), where S_1 and S_2 are formed into one single sentence with C attached to S_1 , the rule (11) will do the job.

$$(11) \begin{array}{cccccc} X & - & S_1 & - & C & - & S_2 & - & X \\ 1 & & 2 & & 3 & & 4 & & 5 \Rightarrow (\text{optional}) \\ 1 & & 2 \# 3 & & 0 & & 4 & & 5 \end{array}$$

In a very sketchy manner I have described the three syntactically distinct structures (cf. 6) as derivable from the structure of (8). I have not discussed constraints on derivation, nor the sentence type (or boundary) marked in (6). I will come to these points in the next two sections.

3. In consideration of meaning, the three sentence connectives *ko*, *kose*, and *se*, which I will now discuss, can be expanded as follows: ko_1 , ko_2 ; *kose*; se_1 , se_2 .⁸ For ease of reference, I will set up four semantic connectives, arbitrarily labelled as C_i , C_j , C_k , C_l with

⁷ Note that in English the configuration $\widehat{S_1 C}$ yields an unanalyzable form like *and*, *but*, *then*, *so*, or the like, which can not make discrete the sentential referent and the connective, although one might argue that the shape *th* in *thus*, *then*, etc., has a referential meaning.

⁸ It is not implied that the *ko* has only two senses ko_1 and ko_2 , the *kose* only one, and so on. For the purpose of contrasting one connective to another, they are marked as such.

(12) a. C_i ('AND') $\longrightarrow ko_1$: enumerative.⁹

b. C_j ('AND/THEN') $\longrightarrow kose, ko_2$: sequential.

c. C_k ('THEN') $\longrightarrow se_1$: time-stressed consequential.

d. C₁ ('SO') \longrightarrow *se*₂: effect-stressed consequential.

3.1. Ko_1 denotes an enumerative function in the sense that the speaker describes events or states by enumerating them without regard to the time of events or states. Compare (3) and (13).

(13) Mary-nun John-hako kyelhonha-yss-ta. Ay-lul pay-ss-ta.

'Mary married John. ϕ (=Mary) got pregnant.'

The two sentences in (3) are reversed in (13). In case there is a C_i -relation between S_1 and S_2 two expressions $S_1-C_i-S_2$ and $S_2-C_i-S_1$ are equivalent in meaning.¹⁰

When C_i is attached to S_1 (as in 6.c), tense reduction is optional in S_1 if Tense 1 is identical to Tense₂, as illustrated in (14) and (15).

(14) a. John-un ecey wa-ss-ta. Bill-un onunl wa-ss-ta.
 yesterday come- today come-PST-Pl/D

b. Bill-un onul wa-ss-ta. John-un ecey wa-ss-ta.

'a. John came yesterday. Bill came today.

b. Bill came today. John came yesterday.'

(15) a. John-un ecey wa-ss-ko, Bill-un onul wa-ss-ta.¹¹

b. John-un ecey o-ko, Bill-un onul wa-ss-ta. (Tense₁ → ϕ /T₁=T₂)

'John came yesterday and Bill came today.'

3.2. *Ko*₂ and *kose* have the property of relating two or more events occurring in sequence. *Ko*₂ may be described as derived from *kose* by *se*-deletion (*kose* → *ko*).¹² I will discuss *ko*₂ and *kose* together. *Ko*(*se*) has a set of constraints on the (surface) structure of

⁹ The form in capital letters (i.e. 'AND', 'AND/THEN', 'THEN', 'SO') are meant to indicate the semantic content. The use of the conventional English word forms would not make one distinct from another. The entries 'enumerative', 'sequential', etc. are suggested so as to make up for the shortcomings resulting from the use of the conventional word forms.

¹⁰ In this respect C_i may be said to possess the same property as that of conjunction (\wedge) in logic; e.g. $p \wedge q \equiv p \wedge q$.

¹¹ Gapping can also apply to (15): *John-un ecey Bill-un onul wa-ss-ta*. 'John came yesterday and Bill today.'

¹² Another connective in the form of *konase*, of which the *na* has a sense of 'coming out (as a result of completion of an act)', may be described as related to *kose*, possibly as *konase* → *kose* → *ko*.

the two sentences to be connected. First of all, the class of verb admissible in S_1 and S_2 is that of nonstative verb. See the ill-formed sentences of (16), where the verb is stative either in S_1 or in S_2 , or in both.

- (16) a. John-un cengcikha-ta. (*Kuli-kose) yongkamha-ta.
honest- brave-

*John-un cengcikha-kose yongkamha-ta.

'John is honest and/then ϕ (=he) is brave.'

- b. John-un cengcikha-ta. (*Kuli-kose) pucilenhi ilha-nta.
diligently work-

*John-un cengcikha-kose pucilenhi ilha-nta.

'John is honest and/then ϕ (=he) works diligently.'

- c. John-un pucilenhi ilha-nta. (*Kuli-kose) cengcikha-ta.

*John-un pucilenhi ilha-kose cengcikha-ta.

'John works diligently and/then ϕ (=he) is honest.'

In passing, let us observe the ways in which zero-pronominalization applies in the *ko(se)*-construction. Consider (17) and notice that forward and backward pronominalization seems to apply to (17.a) and (17.b), respectively; further notice the oddness of (17.c), where the deleted referent must be *John*, the topic NP in S_2 .

- (17) a. Mary-ka ay-lul pay-kose John-hako kyelhonha-yss-ta. (cf. 5)

'Mary_i got pregnant and/then ϕ (=she_i) married John.'

- b. Ay-lul pay-kose Mary-ka John-hako kyelhonha-yss-ta.

' ϕ (=She_i) got pregnant and/then Mary_i married John.'

- c. #Ay-lul pay-kose John-un Mary-hako kyelhonha-yss-ta.¹³ (# 'odd')

' ϕ (=John) got pregnant and/then John married Mary.'

I will now take into account another constraint—the constraint on time in the *kose*-construction. The event time expressed in S_1 must precede the event time in S_2 . This semantic constraint is naturally due to the property of C_j . But this is not sufficient; the tense of S_1 must be identical to that of S_2 . Consider sentences in (18).

- (18) a. Mary-nun John-hako kyelhonha-kose ay-lul pay-ss-ta.
-PST-

¹³ Sentences like (17.c) may raise an interesting question with respect to the rule ordering of pronominalization and topicalization as well as their conditions. I will not pursue this problem here. Given illustrative examples like (17) or (16), one might propose an equi-subject constraint on the S_1 -*kose*- S_2 construction. But sentences like (i) are well-formed.

(i) John-i o-kose Bill-i wa-ss-ta. 'John came and/then Bill came.'

d. Propositional-Propositional

Kongpuha-ca! (Kuli-kose) ca-ca!

-Pl/Prop

=Kongpuha-kose ca-ca!

'Let's study and/then sleep!'

The fact that different sentence types cannot be connected by *kose* can be seen from the sentences of (20.b), which are not identical to the corresponding sentences of (20.a).

- (20) a. Ne-nun kongpuha-yss-ta. (*Kuli-kose) $\left\{ \begin{array}{l} \text{ca-ss-nya?} \\ \text{ca-la!} \\ \text{ca-ca!} \end{array} \right\}$
- b. Ne-nun kongpuha-kose $\left\{ \begin{array}{l} \text{ca-ss-nya?} \\ \text{ca-la!} \\ \text{*ca-ca!}^{16} \end{array} \right\}$ $\left\{ \begin{array}{l} (=19.c) \\ (=19.b) \end{array} \right\}$

3.3. I will now turn to *se*. *Se* seems to have at least two senses, closely related yet distinct: time-stressed consequential se_1 and effect-stressed consequential se_2 . In general, the semantic property of *se* (in S_1 -*se*- S_2) is such that S_2 is described as a natural consequence of S_1 , with stress on either time-sequence (se_1) or effect (se_2). In the sense of se_1 , or C_k , it is very similar to *kose* in meaning and the same set of constraints seems to apply to se_1 as well. Consider (21) and notice the two senses of *se* in translation, 'then' and 'so'.

(21) Mary-nun John-hako kyelhonhay-se ay-lul pay-ss-ta.

$$\left\{ \begin{array}{l} \text{-then} \\ \text{-so} \end{array} \right\}$$

'Mary married John, $\left\{ \begin{array}{l} \text{then} \\ \text{so} \end{array} \right\}$ she got pregnant.'

Compare now the sentence (18.a) with (21), in which the *se* is used in the sense of se_1 . The two sentences might appear to have the same meaning, but they are distinct. In the case of the *kose*-sentence the semantic relation between the two events described by S_1 and S_2 need not be a cause-effect relation, whereas in the case of the *se*-sentence the relation needs to be a cause-effect relation, one event following the other as a natural consequence. To elaborate the subtle difference in meaning, we may be able to say that in (21) the person responsible for Mary's pregnancy is John but in (18.a) the person responsible for her pregnancy may be John (in a normal or conventional sense) or may not be. Thus notice that (22.a) is unacceptable and (22.b) is well-formed.

(22) a. *Mary-nun John-hako kyelhonhay- se_1 Bill-uy ay-lul pay-ss-ta.

-of

¹⁶ *Ne-nun kongpuha-kose ca-ca* is ill-formed because it is in violation of the condition that a propositional sentence requires its subject to be 'we' (or, more precisely, 'I' plus optional 'you'—cf. Chang 1972b).

The deletion of *se* may be described as having to do with the deletion of *se* from *kose* as we observed earlier in Section 3.2. Conditions on the deletability of *se* require further study.

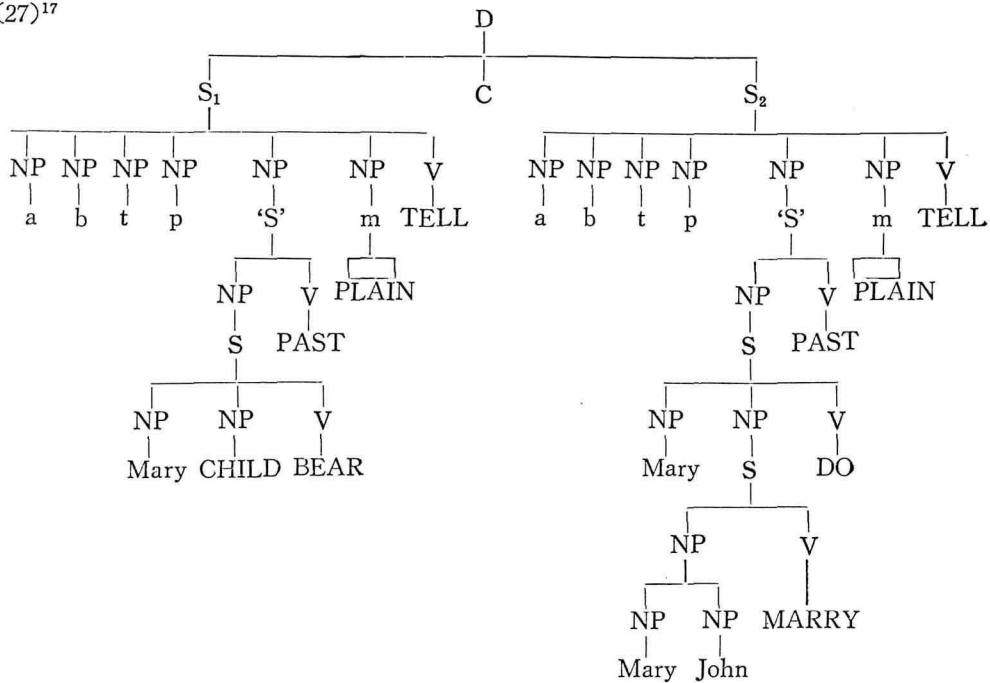
including investigation on the semantic content, specifically the aspectual meaning, of S_1 .

4. I will now describe the semantic structure of S_1 and S_2 connected by C (cf. 8), in the discourse-frame I have attempted to develop elsewhere (of. Chang 1972). And I will reconsider the derivations of (6) from (8) presented in Section 2 as an approximation.

Given a discourse-sentence containing deictic elements like the speaker (a), the hearer (b), utterance time (t), utterance place (p), the manner of speaking (m), and the discourse-verb (e.g. TELL), the semantic structure of (3), repeated here as (26), may now be represented roughly, details aside, as in (27).

(26) Mary-nun ay-lul pay-ss-ta. John-hako kyelhonha-yss-ta.

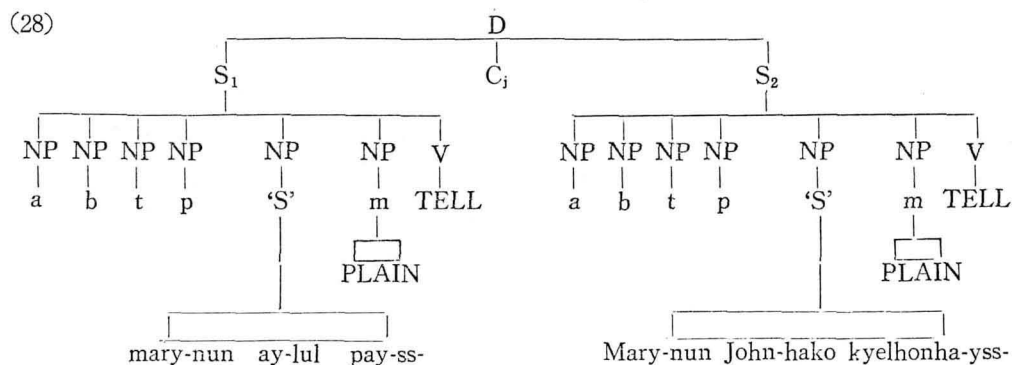
(27)¹⁷



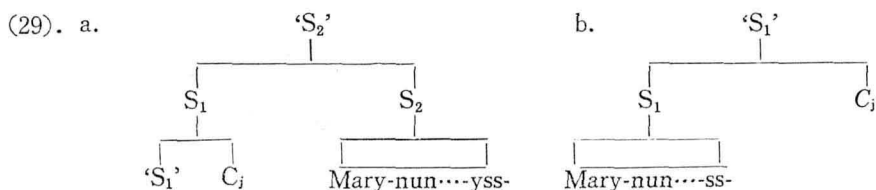
The semantic connective C is to be specified as C_i , C_j , C_k , C_l , or the like, depending on its semantic property. Suppose the C in (27) is specified as C_j or 'AND'. Subtrees S_1 and S_2 undergo usual transformations, such as predicate raising, equi-NP deletion, conjunct extraposition, tree pruning, topicalization, etc. Before the realization of the discourse level

¹⁷ The semantic content 'CHILD' may be expressed as index x_i with its description: ' x_i child John $\rightarrow x_i$ is John's child', following J.D. McCawley (cf. McCawley 1967, 1970). For the positing of 'DO' as the proverb of an act, see Ross 1972. The structure of 'Mary marries John.' is based on Quang's proposal (1971), which is a revision of Lakoff and Peters' (1966): in Korean the comitative *John-hako* may be described as derived from conjunct extraposition, only if the first conjunct (*Mary* in this case) is regarded as the sole agent.

and the sentence type, respectively by the speech manner (*m*) and the discourse-verb of the discourse-sentence, the derived structure may look like (28).



Given a semantic representation like (27) or (28), we may be able to tell of the well-formedness of the expression by way of looking up the speech manner NP₅ or the discourse-verbs in the two discourse-sentences to see whether the two discourse levels or sentence types are the same, or we may be able to tell whether the speakers of *S*₁ and *S*₂ are the same. If the semantiic connective *C*_i is not lexicalized (cf. 6.a), I assume that it is deleted together with the discourse-frame after the discourse level and the sentence type are syntactically realized. In order to derive the structure of (6.b), i.e. the structure with a sentence-initial connective, I assume that *C*_i is copied and the copy is inserted into '*S*₂' together with a copy of '*S*₁' so as to form substructure (29.a). In order to derive the structure of (6.c), I assume that *C*_i is copied and the copy is now inserted into '*S*₁' so as to form substructure (29.b).



Given the substructures (29.a) and (29.b), *C*_i is lexicalized (*C*_i → *kose*, *ko*), the discourse level and the sentence type are realized, and finally the discourse frame is deleted together with the original *C*_i. But note that in the structure containing (29.b) (cf. *S*₁ in 6.c) the realization of the discourse level and the sentence type is blocked, which I conjecture is due to the presence of *C*_i in (29.b). Thus, in the structure of (6.c) there is no sentence boundary (or type) marked internally. By re-examining the derivations of the (near) surface structures in (6) from the semantic structure (28) containing an explicit discourse frame, I have tried to account for the three distinct syntactic structures, in particular the presence

At the last stage of the derivation, or possibly before the deletion of the discourse frame and the semantic connective C_j , zero-pronominalization applies to delete either the second occurrence of *Mary-nun* (by forward pronominalization) or the first occurrence of *Mary-nun* (by backward pronominalization). If the notion of 'command' (cf. Langacker 1969) is adequate for the characterization of pronominalization in Korean, the fact that backward pronominalization applies to the *ko(se)* and *se*-constructions, but not to the *ko*₁-construction, may serve as a piece of evidence giving support to the view that S_1 connected by *ko(se)* or *se* is 'subordinate to' S_2 and S_1 connected by *ko*₁ is 'coordinate to' S_2 .¹⁸ On semantic grounds, however, it may be hard to tell why C_j , C_k and C_1 , but not C_i , should be regarded as possessing the property of connecting S_1 as subordinate to S_2 , unless we are motivated, by some cognitive or communicative strategy, to state that *acause* is 'subordinate to' an effect in a cause-effect relation or in a time-sequence.

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¹⁸ Another piece of syntactic evidence to support the view that *ko*₁ is a coordinate connective and *ko*₂, *kose*, and *se* are subordinate connectives may be seen from relativization, provided that Ross's Coordinate Structure Constraint is adequate and applicable to Korean as well. Relativization is blocked in an S₁-*ko*₁-S₂ construction but it is permissible in an S₁-*ko*(*se*)/*se*-S₂ construction. as illustrated in (i)-(iii).

- (i) **[Mary-ka ay-lul pay-ss-ko₁ kyelhonha-n]* John-i Nancy-hako sal-ko iss-ta.
 -REL live-ing-
‘*John, who Mary got pregnant and she married, is living with Nancy.’
- (ii) *[Mary-ka ay-lul pay-ko(se) kyelhonha-n]* John-i Nancy-hako sal-ko iss-ta.
‘John, who { Mary married after getting pregnant, } is living with Nancy.
 { *Mary got pregnant and/then married, }
- (iii) *[Mary-ka ay-lul pay-se kyelhonha-n]* John-i Nancy-hako sal-ko iss-ta.
‘John, who { Mary married as she got pregnant, } is living with Nancy.’
 { *Mary got pregnant so she married, }

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